

SOV/85-58-10-17/34

AUTHOR: Chernenko, N. (Kaliningrad)
TITLE: Sports Standards Raised (Povysili sportivnyye razryady)
PERIODICAL: Kryl'ya rodiny, 1958, Nr 10, p 15 (USSR)
ABSTRACT: An account of the 1958 activities in model-aircraft building at the independent aviation sports club in Kaliningrad.

Card 1/1

~~CHERNENKO, N.F.~~

AUTHORS: Gridnev, V.N. Dr. of Tech. Sc., Prof., Cherepin, V.T., 610
Ing. and Chernenko, N.F., Ing. (Inst. of Metal Physics,
Ac.Sc. Ukraine and Kiev Polytechnical Institute).

TITLE: Hardening of the austenite in the case of martensitic
transformation. (Uprochneniye austenita pri obratnom
martensitnom prevrashchenii).

PERIODICAL: "Metallovedenie i Obrabotka Metallov" (Metallurgy and
Metal Treatment), 1957, No.5, pp.7-12 (U.S.S.R.)

ABSTRACT: This paper is devoted to the study of the influence of
the austenite to martensite and martensite to austenite
(direct and reverse) transformations on the mechanical
properties of austenite and the study of the influence
of the heating speed on the kinetics of transformation
and stabilisation of the austenite. The investigations
were carried out on an iron-nickel-manganese alloy
containing 21.5% Ni, 2.86% Mn and 0.02% C; the
martensitic point is about 10°C and the initial
temperature of the reverse martensitic transformation
is 470°C. The alloy was produced in a high frequency
furnace, forged into a cylinder of 8 mm dia. and drawn
into a wire of 1.6 mm dia. which was then annealed for
two hours at 1100°C inside a protective atmosphere.
The tests were carried out on wires of 1.6 mm dia. and
130 mm long. Fig.1 shows oscillograms of the elongation,
the temperature and the drop in the stress in the case

Hardening of the austenite in the case of martensitic transformation. (Cont.) 610

of heating at a rate of $3000^{\circ}\text{C}/\text{sec}$ of an austenite specimen after preliminary holding for one and a half hours at -75°C . In Fig.2 the thermal and dilatometric curves are reproduced for repeated heating. Fig.3 shows the increase in strength of the austenite in the case of reverse martensitic transformation for a heating speed of $1000^{\circ}\text{C}/\text{sec}$. Fig.4 shows the influence of the speed of heating on the hardness after reverse martensitic transformation. Fig.5 shows the change in the properties of the austenite as a function of the speed and temperature of the heating after reverse martensitic transformation, whilst Fig.6 shows the kinetics of the softening of the alloy after cooling down to -75°C and isothermal annealing at temperatures exceeding the α to γ transformation temperatures. The maximum stabilisation effect is observed after the first cycle of the treatment; with increasing number of cycles a further stabilisation of the austenite takes place but for the selected heat treatment, applying temperatures of -75 to $+800^{\circ}\text{C}$, no full stabilisation was obtained even after five cooling plus heating cycles. The temperature of the reversible martensitic transformation remains unchanged. An increase in the heating speed from 100 to $10\,000^{\circ}\text{C}/\text{sec}$ also does not

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Hardening of the austenite in the case of martensitic transformation. (Cont.) 610

reveal an appreciable influence on the temperature of the reversible martensitic transformation. The properties of the austenite change appreciably due to phase hardening; a single stabilisation treatment brings about an increase in the strength from 73 to 95 kg/mm² with a simultaneous decrease in the elongation from 34 to 20% and there is a considerable increase of the yield point. Increased heating speeds shorten the time of holding of the alloy at the maximum temperatures and lead to higher strength values. Increase of the strength of the austenite by phase hardening can be of considerable practical interest when using metastable austenitic steels as a structural material. 6 graphs; 5 references, 2 of which are Russian.

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PLANE I BOOK EXAMINATION 807/1177

Academy of Sciences USSR, Institute Metallurgical

Voprosy fiziki metallor (Problems in the Physics of Metals and Metallurgy) Kiev, 1959, 215 p. (Series: 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th) 3,000 copies printed.

Ed. of Publishing House: O.M. Pechenkin; Tech. Ed.: E.A. Ruzh; Editorial Board: V.F. Srebnikov, Academician, Academy of Sciences USSR (Resp. Ed.), S.B. Gertsberg, Doctor of Physics and Mathematics, and I.Ya. Dekhter, Doctor of Technical Sciences.

PURPOSE: This collection of articles is intended for scientific workers, engineers and researchers working in metal physics, metallurgy and metallurgy, and for students in advanced courses of metallurgy and physics departments.

CONTENTS: The collection of articles gives the results of an investigation of the effect of high heating rates, thermal treatment, deformation and crystallization conditions on the phase transformations, structure and properties of metals and alloys, and of the effect of alloying additives on volume and intergranular

Problems in the Physics of Metals and Metallurgy 807/1177

diffusion in alloys, as well as the effect of repeated tempering by ultrasonic irradiation on the physical properties of alloys. There is also a description of an x-ray camera for studying the structure of the individual grains. The following personalities are mentioned: V. I. Zolotarev, A.A. Kufinov, S.O. Glazunov, Y.I. Gerasimov, V. Dushenko, L.M. Kibot', and I.Ya. Dekhter, Doctor of Technical Sciences. There is a bibliography of Soviet and non-Soviet references at the end of each article.

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Assembly and SSN. Institut metallurgii	50/598
Titan 1 yego splyny. Top. 3. Metallotekhnika, titana (Titanium and its alloys, No. 3. Metallurgy of titanium) Moscow, Izdatel'stvo titana, 1950. 161 p. 16000 copies printed. 2,100 copies printed.	
Sponsoring Agency: Institut metallurgii	
Res. Ed. N. V. Kopyev, Corresponding Member, Academy of Sciences USSR, Ed. of Publishing House: M. L. Podgorskiy, Tech. Ed.: Ye. V. Mikhlin.	
FOREWORD: This collection of articles is intended for scientific research workers and metallurgical engineers.	
CONTENTS: The articles summarize results of experimental studies of titanium base alloys. The microstructure and mechanical properties of titanium base alloys containing aluminum, chromium and other metals are analyzed along with the effect of oxygen, hydrogen and heat treatment on alloy structure and properties. The tendency of titanium alloys to embrittlement as a result of proper aging is revealed, and the methods of titanium, carried out to improve the strength and wear resistance of titanium, carried out to improve the structure strength and wear resistance of titanium alloys, is described. The formation of corrosion products of titanium alloys, is described. The results of attempts to develop titanium base alloys capable of electric resistance heating are discussed as are problems of titanium-powder sintering and weldability of titanium base alloys. The problems of titanium-powder sintering and weldability of titanium base alloys to peroxide alloys are mentioned. Most of the articles have bibliographic references, the majority of which are Soviet.	
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GRIDNEV, V.N.; RAPALOVSKIY, V.A.; TREFILOV, V.I.; CHERNENKO, N.P.

Phase and structural changes in heating Ti-Cr alloys. Sbor. nauch.
rab. Inst. metallofiz. AN URSR no.10:77-85 '59. (MIRA 13:9)
(Titanium-chromium alloys—Metallography)
(Metals, Effect of temperature on)

S/137/62/000/008/038/065
A006/A101

AUTHORS: Gridnev, V. N., Trefilov, V. I., Lotsko, D. V., Chernenko, N. F.

TITLE: On the mechanism of phase transformations in Ti-Cr alloys

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1962, 36, abstract 8I221.
("Sb. nauchn. rabot In-ta metallofiz. AN UkrSSR", 1961, no. 12, 37 - 45)

TEXT: Ti-alloys containing 0.5 - 10.5% Cr were melted in an arc furnace. From the ingots, wire, 1.6 - 1.8 mm in diameter, was manufactured after forging. During the electric heating of the specimens, temperature and dilatometric curves, and the dropping of the current voltage and intensity were recorded. The alloys were quenched in an argon jet at 200 - 300 degree per second cooling rate. The quenched alloys, containing up to 5 - 5.5% Cr, have an α' -phase structure. At a higher Cr-content the temperature of martensite transformation decreases abruptly. During the heating of quenched alloys reverse transformation takes place according to martensite kinetics. The temperature of reverse transformation depends only on the Cr content and not on the heating rate (150 - 3,000 degree/sec). ✓

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On the mechanism of phase transformations in...

S/137/62/000/008/038/065
A006/A101

In alloys with 5.5 - 6% Cr, ω -phase is formed. The temperature of ω -phase formation is about 310°C and does not depend on the composition or the cooling rate. The temperature of reverse transformation $\omega \rightarrow \beta$ is by 80 - 100°C higher and also depends neither on the composition nor the cooling rate. The growing crystals of the martensite phase cause the formation of martensite crystals in the adjacent grain when they encounter the grain boundary; the magnitude of the crystals depends upon the dynamic collision force. The domain structure of martensite needles is noted. The authors studied also the $\alpha \rightarrow \beta$ transformation occurring during the heating of annealed alloys. It was established that it begins at 850±10°C independent of the heating rate and the Cr content. There are 10 references. ✓

P. Novik

[Abstracter's note: Complete translation]

Card 2/2

S/124/63/000/002/031/052
D234/D308

AUTHOR: Chernov, V.I.

TITLE: Comparison of the methods of Bitseno-Koch and Galerkin with respect to the design of a rectangular plate on an elastic base represented by a mixed model

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 2, 1963, 14, abstract 2V89 (Tr. Khar'kovsk. inzh.-stroit. in-ta, no. 17, 1961, 66-73)

TEXT: The author gives the solution to the problem of bending of a flexible rectangular plate with rigid ribs along its edge, supported by a yielding base represented by a mixed model. The resistance of the base in such a model is represented as a sum of the principal and an additional resistance. The latter is determined with the aid of Winkler's hypothesis, the former by using the model of an elastic half-space. For determining the deflections, the author uses the methods of Bitseno-Koch and of Galerkin.
[Abstracter's note: Complete translation]

Card 1/1

S/601/62/000/015/010/010
A004/A127

AUTHORS: Gridnev, V.N., Lotsko, D.V., Trefilov, V.I., Chernenko, N.F.

TITLE: On the nature of changes in the physical properties of titanium alloys in the temperature range of 100 - 400 °C

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut metalofyzyky. Sbornik nauchnykh rabot. no. 15. Kiev, 1962. Voprosy fiziki metallov i metallovedeniya, 192 - 200

TEXT: The authors investigated phase transformations in titanium alloys containing additions of 2.3 and 5 weight % Al, 1.87 and 5 weight % Cr, 2.2 and 5 weight % Fe, 3 and 5 weight % Sn and also iodide titanium and titanium of commercial purity - grade BT-1 (VT-1). The alloys were melted in an arc furnace and by the induction drop-melting method in purified argon with triple remelting. They had the shape of bars 3.5 mm in diameter. Plastic deformation was effected by drawing. The degree of deformation was determined as the relative reduction in cross section. After processing under various conditions, the specimens were subjected to x-ray, electron-diffraction and electron-microscopic examination. ✓

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On the nature of changes in the physical

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A004/A127

The authors give a detailed report on the test results and come to the conclusion that the cause of the anomalous volumetric changes in titanium alloys in the temperature range of 100 - 400°C is the hydrogen ageing, which is considerably accelerated by deformation. According to available data (Tien-Shiuh Liu, Morris A. Steinberg. Trans. ASM, 50, 455, 1958) the crystallographic planes of hydride separation are (1010), (1011), (1121) and (1012). These planes coincide with the possible glide planes and twinning planes in α -titanium at room temperature, which increases the sensitivity of the alloy to impact loads and causes an intense hydride separation in alloys subject to considerable plastic deformation. There are 7 figures and 2 tables. ✓

SUBMITTED: June 25, 1961

Card 2/2

S/601/62/000/016/015/029
E193/E383

AUTHORS:

Gridnev, V.N. and Chernenko, N.F.

TITLE:

Diagram of metastable transformation in the Ti-Sn system

SOURCE:

Akademiya nauk Ukrayins'koyi RSR. Instytut metalofyzyky. Sbornik nauchnykh rabot. no. 16. Kiyev, 1962. Voprosy fiziki metallov i metallovedeniya. 115 - 123

TEXT:

The object of the present investigation was to study the effect of a) the initial structure of Ti-Sn alloys and b) the rate of heating on the temperature of the $\alpha \rightleftharpoons \beta$ transformation. The experimental alloys contained 1.53 - 18.2 wt.% Sb with traces of Fe, Si, Cl and N. The experiments were conducted on wire specimens either annealed at 850 °C and constituting the α -phase, or quenched from 950 °C and consisting of the α' -phase. The specimens were heated at rates ranging from 100-1500 °C/sec and the temperature range of the $\alpha \rightleftharpoons \beta$ transformation was determined by a method described in an earlier work of the authors ("Zavodskaya laboratoriya", no. 3, 1957) and entailing simultaneous

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Diagram of metastable

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E193/E383

recording of the specimen temperature, dilatometer curve, current passing through the specimen and the drop in potential across the gauge length of the specimen. The constitution of the test pieces was determined by X-ray diffraction; metallographic examination and hardness measurements were also carried out. The results were used to construct a diagram from which the temperature range of the $\alpha \rightarrow \beta$ transformation under non-equilibrium conditions (i.e. at increased heating and cooling rates) could be determined.

Conclusions - At fast cooling rates marked supercooling of the β -phase occurs in Ti-Sn alloys; when cooled at 300 - 350 °C/sec or faster, these alloys develop a needle-like martensite-type structure, the temperature of the $\beta \rightarrow \alpha'$ transformation decreasing continuously with increasing Sn content of the alloy. 2 - At fast heating rates (100 - 1500 °C/sec) the temperature of the beginning of the $\alpha \rightarrow \beta$ transformation in annealed alloys is shifted towards higher temperatures, the displacement increasing from 10-15 °C in alloys with a low (up to 8%) Sn content to 70-80 °C in alloys with 15-18% Sn. Since the temperature of the end of the transformation is also shifted towards higher values, increasing the rate of heating brings about an increase in the temperature range

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Diagram of metastable

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E193/E383

of the $\alpha \rightarrow \beta$ transformation (the values of the critical temperatures are unaffected by the variation in the heating rate in the above quoted range). 3 - The temperature of the beginning of the $\alpha - \beta$ transformation in quenched alloys is practically unaffected by increasing the rate of heating. It can be postulated that preliminary quenching affects the structural-kinetic factor (e.g. by decreasing the free energy of formation of nuclei of the new phase), thus decreasing the temperature of the beginning of the $\alpha \rightarrow \beta$ transformation. Since the temperature of the end of the phase-transformation at fast heating rates is practically the same for annealed and quenched alloys, the temperature range and, consequently, the duration of the transformation are considerably longer in the case of quenched alloys. There are 7 figures and 1 table.

SUBMITTED: January 26, 1962

Card 3/3

GRIDNEV, V.N.; MESHKOV, Yu.Ya.; CHERNENKO, N.F.

Critical points of the titanium-chromium alloy during rapid heating.
Sbor. nauch. rabot. Inst. metallofiz. AN URSR no.17:143-146 '63.

Complex equipment for the study of phase transformations during
rapid heating. Ibid.:187-192
(MIRA 17:3)

GRIDNEV, V.N.; CHERNENKO, N.F.

Investigating transformations during the electric heating of Ti-
Cr-Sn alloys. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.17:
151-165 '63. (MIRA 17:3)

GRABIN, Vladimir Fedorovich; CHERNENKO, N.F., kand. tekhn. nauk,
otv. red.; GILELAKH, V.I., red.

[Structure and properties of welded joints of titanium al-
loys] Struktura i svoistva svarnykh soedinenii iz titanovykh
splavov. Kiev, Naukovadumka, 1964. 104 p. (MIRA 17:12)

ACCESSION NR: AT4042836

8/2601/64/000/018/0100/0106

AUTHOR: Gridnev, V. N.; Meshkov, Yu. Ya.; Chernenko, N. P.

TITLE: Critical points of rapidly heated titanium-iron alloys

SOURCE: AN UkrSSR. Institut metallofiziki. Sbornik nauchnykh
rabot, no. 18, 1964. Voprosy fiziki metallov i metallovedeniya
(Problems in the physics of metals and physical metallurgy), 100-106

TOPIC TAGS: titanium alloy, titanium iron alloy, alloy phase trans-
formation, critical heating rate, rapid heating, diffusional phase
transformation, nondiffusional phase transformation

ABSTRACT: Vacuum-arc-melted Ti-base alloys containing 8% Fe were
forged, drawn, and then vacuum annealed at 850C for 150 hr. The
obtained eutectoid was a coarse-grained mixture of the α -phase and
a Ti-Fe intermetallic compound. Specimens were heated at a rate
varying from 0.05 to 1300 deg/sec, and the transformation points were
determined by the dilatometric and electric resistivity measurements.
It was found that the temperature of the beginning of the transfor-
mation increased first rapidly (from -580 to -775C) as the heating

Cord

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ACCESSION NR: AT4042836

rate was increased to 100 deg/sec, then more slowly (from -775 to 825C) as the heating rate was increased from 100 to 400 deg/sec, and practically stabilized at 850C at higher heating rates. A good agreement between the critical heating rate (470 deg/sec) calculated for the diffusional transformation mechanism and the experimental rate (~400 deg/sec) shows that with heating at a rate lower than the critical, i.e., 400 deg/sec, the high-temperature β -phase is formed by diffusional interaction of the α -Ti and TiFe phases of the eutectoid. With heating at a rate higher than the critical, the formation mechanism of the high-temperature β -phase becomes nondiffusional, i.e., the α -phase first is transformed to the β -phase of the same composition and only later, with further increase in temperature, the TiFe intermetallic compound dissolves in the β -phase. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of Physics of Metals, AN UkrSSR)

SUBMITTED: 01Mar63

ATD PRESS: 3086

ENCL: 00

NO REF SOV: 010

OTHER: 000

SUB CODE: MM, IE
Card 2/2

CHERNENKO, N.F.

Investigating transformations in cobalt during rapid heating.
Sbor. nauch. trud. Inst. metallofiz. AN URSR no.20:180-184 '64.
(MIRA 18:5)

MESHKOV, Yu.Ya.; OSHKADEROV, S.P.; CHERNENKO, N.F.

Equipment for complex investigations of phase transformations
under the effect of rapid heating. (bor. nauch. trud. Inst.
metallofiz. AN URSS no.20:198-202 '64.

(MIRA 18:5)

L 43096-66 EWT(m)/ENP(w)/T/ENP(t)/ETI/ENP(e) IJP(c) CE/HW
 ACC NR: AR6014380 (A,N) SOURCE CODE: UR/0137/65/000/011/DO43/DO44 46
 AUTHORS: Gridnev, V. N.; Chernenko, N. F.; Rafalovskiy, V. A.
 TITLE: Mechanical properties of titanium alloys after cold deformation 16
 SOURCE: Ref. zh. Metallurgiya, Abs. 11D304
 REF SOURCE: Sb. Stal'n. kanaty. Vyp. 2. Kiyev, Tekhnika, 1965, 405-409
 TOPIC TAGS: titanium alloy, wire, plasticity, material deformation, annealing,
 Cold drawing 17
 ABSTRACT: The mechanical properties of cold drawn wire of previously vacuum annealed
 commercial Ti alloy specimens were investigated. It was found that preliminary vacuum
 annealing does not yield an optimum combination of strength and plasticity of cold
 drawn wire. A preliminary electrothermal treatment did yield wire of satisfactory
 strength and plasticity after cold drawing. The effectiveness of application of
 electrothermal treatment in obtaining wire of high mechanical properties was
 corroborated. A. Leont'yev [Translation of abstract]
 SUB CODE: 11,13,20
 UDC: 621.771.3.001

~~CHERNENKO, Nikolay Grigor'yevich; OLENEV, Valeriy Aleksandrovich~~

[New methods of milking cows by machine] Novyi metod mashinnogo
doenia korov. Moskva, Moskovskii rabochii, 1956. (MLRA 10:4)

19 p.

(Milking machines)

CHERNENKO, N. G.,

"The importance of mechanization in agriculture."

report presented at a meeting of scientists, agricultural workers and directors of the All-Union Agricultural Exhibition (VSKhV) (Nauka i zhizn', 1958, pp 33-41), Moscow, 1958.

Head of Moscow kolkhoz imeni Makarov.

SHKOLOVSKAYA, D.Yu.; CHERNENKO, N.I.

Average hematological indexes of donors in the city of ~~Karkov~~ as
related to the time of the year. Vop.perel.krovi 4:249-255 '55.
(KHARKOV--BLOOD DONORS) (MIRA 9:12)

CHERNENKO, N.K.(Feodosya)

~~Work experience of subject commissions for mathematics. Mat. v~~
shkole no. 4:41-45 J1-Ag '58. (MIRA 11:7)
(Mathematics)

L 57014 4F

... for superior ... underutilized ...

Card

CHERNENKO, Nikolay Valer'yanovich; SHURUBALKO, V.K., dotsent, otv.red.;
FLYASINIKOV, B.N., red.; KHOKHANOVSKAYA, T.I., tekhred.

[How the Communist Party reconstructed industrial enterprises,
raised the qualification of workers, and increased their number
in 1921-1925 in the Ukraine] Bor'ba Kommunisticheskoi partii
za vosstanovlenie promyshlennosti i konsolidatsiu rabochego
klassa Ukrainy v 1921-1925 gg. Kiev, Izd-vo Kievskogo gos.univ.
im. T.G.Shevchenko, 1959. 217 p. (MIRA 12:9)
(Ukraine--Economic conditions)

VAYNSHTEYN, L.; ~~CHERNOMIROV, O.~~

Calculating labor productivity in the confectionery industry
Biul.nauch.inform.; trud i nar.plata. no.3:8-12 '59.

(MIRA 12:5)

(Confectionery)
(Labor productivity)

CHERNENKO, S.

Nemunas, its people and prospects. Rech. transp. 21 no.2:9-11 F
'62. (MIRA 15:3)

1. Nachal'nik Nyamunskogo parokhodstva.
(Neman River--Inland water transportation)
(Lithuania--Merchant seamen)

TYULENEV, V.G.; CHERNENKO, S.A.

~~CONFIDENTIAL~~
The operation and effectiveness of AUS-3. Neftianik 1 no.10:
24-26 0 '56. (MLRA 9:11)

1. Nachal'nik sektora Giproneftemasha (for Tyulenev). 2. Glavnyy inzhener proyekta Giproneftemasha (for Chernenko).
(Oil well drilling--Equipment and supplies)

CHERNENKO, S.A.; TOLPYGIN, P.P., starshiy nauchnyy sotrudnik

Use of Siberian larch in the furniture industry as facing material. Trudy VSNIPILesdrev no.9:3-10 '64.

(MIRA 18:11)

1. Nachal'nik laboratorii derevoobrabotki Vostochnosibirskogo issledovatel'skogo i proyektnogo instituta lesnoy i derevoobrabatyvayushchey promyshlennosti (for Chernenko).

CHERNENKO, S.A., inzh.; DRABKIN, A.S., inzh.

Axial-flow pump for drilling. Bezop.truda v prom. 4 no.12:26-27
D '60. (MIRA 14:1)

1. Giproneftemash.
(Oil wells—Equipment and supplies)

CHERNENKO, S.A., inzh.; TOLPYGIN, P.P., inzh.

Utilization of Siberian larch in the manufacture of furniture.

Der. prom. 13 no.1:9-11 Ja '64.

(MIRA 17:4)

1. Vostochno-Sibirskiy nauchno-issledovatel'skiy i proyektnyy institut
lesnoy i derevoobrabatyvayushchey promyshlennosti.

CHERNENKO, S.A., inzh.; GORSHKOVA, N.A., inzh.

New method for deep staining of birch wood. Der. prom. 13 no.7:
23-25 J1 '64. (MIRA 17:11)

1. Vostochno-Sibirskiy nauchno-issledovatel'skiy i proyektnyy
institut lesnoy i derevoobrabatyvayushchey promyshlennosti.

CHERNENKO, S.A., inzh.

Characteristics of the deep staining of aspen wood by the
method of impregnation from the butt end under pressure.

Der. prom. 13 no.12:15-17 7 '64 (MIRA 12:15)

1. Vostochno-Sibirikiy nauchno-issledovatel'skiy i promyshlennyy
institut lesnoy i derevoobrabatyvayushchey promyshlennosti.

CHERNENKO, S. F.

Chernenko, S. F. "Changes in hybrid seedlings at young age," Trudy Plodoovoshch. in-ta im. Michurina, Vol. V, 1948, p. 17-26.

SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, No. 17, 1949).

CHERNENKO, S. F.

20913 Chernenko, S. F. Novyy letniy sort yabloni Prevoskhodnoye Rozcvaye.
Sad i ogorod, 1949, No. 6, s. 24-26.

SO: LETOPIS ZHURNAL STATEY - Vcl. 28, Moskva, 1949

CHERNENKO, S.F.

"Biological Peculiarities In The Development Of Hybrid Apple Seedlings" (p.156) by
S.F. Chernenko

SO: Journal of General Biology (Zhurnal Obsheei Biologii) Vol. XI, 1950, No.3

CHERNENKO, S.F., doktor sel'skokhozyaystvennykh nauk, laureat Stalinskoy
premi.

Ways of developing new varieties of early and late apples. Trudy
TSGL 5:195-247 '53. (MIRA 12:11)
(Apple--Varieties)

CHERNENKO, S.F.; CHERNENKO, Ye.S.

Methods of obtaining hybrids of the pear and apple. Izv. AN SSSR.
Ser. biol. no. 4:14-32 J1-Ag'55. (MLRA 8:10)

1. Tsentral'naya geneticheskaya laboratoriya imeni I.V. Michurina,
Michurinsk
(Hybridization, Vegetable) (Apple) (Pear)

CHERNENKO, S.F., professor

In Michurin's path. Priroda 44 no.10:48-57 0'55. (MLRA 8:12)
(Fruit culture)

CHERNENKO, S.F.

Developing high-grade pear varieties for the central region of
the U.S.S.R. Biul.nauch.-tekh.inform.TSOL no.1:13-15 '56.
(MIRA 12:1)

(Pear breeding)

CHERNENKO, S., professor (g. Michurinsk)

To my friends, the young fruit breeders. IUn.na; no.2:31 Ny '56.
(MIRA 9:11)

(Fruit culture)

CHERNENKO, Semen Fedorovich

[Half a century of work in an orchard] Polveka raboty v sadu.
Moskva, Gos. izd-vo selkhoz lit-ry, 1957. 503 p. (MIRA 11:4)
(Fruit culture)

LOBANOV, P.; BREZHNEV, D.; OL'SHANSKIY, M.; LYSENKO, T.; LISAVENKO, M.;
SINYAGIN, I.; YAKUSHKIN, I.; PREZENT, I.; VARUNTSYAN, I.; KOLESNIKOV,
V.; YEVTUSHENKO, A.; ZASYADNIKOV, T.; ALISOV, M.; UTEKHIN, A.;
GORSHKOV, I.; BELOKHONOV, I.; VIDENIN, K.; KARPOV, G.; CHERNEKO, S.;
BAKHAREV, A.; TIKHONOVA, A.; KUZ'MIN, A.; BUZULIN, G.; TOLMACHEV, I.;
LYSYUK, Ye.; KHARITONOVA, Ye.; KUSHNIRENKO, M.; NOVOPAVLOVSKAYA, N.;
ZHIRONKIN, I.; KATSURA, O.; KIRYUKHIN, I.; NIKITIN, B.; TSVETAYEVA, Z.;
ARKHIPOV, B.; OSTAPENKO, V.; IVANOV, V.; BUTUZOV, V.; LUTKOVA, I.;
TSVETAYEVA, Z.; ARKHIPOV, B.; OSTAPENKO, V.; IVANOV, V.; BUTUZOV, V.;
LUTKOVA, I.

P.N. Iakovlev; obituary. Agrobiologiya no.6:119 N-D '57.
(MIRA 10:12)
(Iakovlev, Pavel Nikanorovich, 1898-1957)

CHERNENKO, S.F.

From my recollections about Michurin. IU.nat. no.8:24-26 Ag '60.
(MIRA 13:8)

(Michurin, Ivan Vladimirovich, 1855-1935)

LUK'YANENKO, P.P., akademik (Krasnodar); CHERNENKO, S.F., prof. (Michurinsk);
LITOVCHENKO, G.R., knad. sel'skokhozyaystvennykh nauk; KOREN'KOV, V.A.;
SELIVANOV, A.I., prof.; CHERNIGOVSKIY, V.N.; DUBROVSKIY, A.A.;
BAKHTADZE, K.Ye., akademik (Stantsiya Chakva)

Great strides of Soviet science. IUn. nat. no.11:3, 27, 31, 33, 35-36
0 '62. (MIRA 16:5)

1. Chleny-korrespondenty Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni Lenina (for Koren'kov, Slivanov). 2. Deystvitel'nyy chlen Akademii nauk SSSR (for Chernigovskiy), 3. Rukovoditel' laboratorii Vsesoyuznogo nauchno-issledovatel'skogo instituta mekhanizatsii sel'skogo khozyaystva (for Dubrovskiy).
(Science news)

CHERNENKO, S.F.

People's University of Safety Engineering. Zhel.dor.transp. 47
no.10:83 0 '65. (MTRA 18:10)

1. Nachal'nik otдела uchebnykh zavedeniy L'vovskoy dorogi.

AUTHORS: Gol'dov, N. G., Chernenko, S. Ye. 64-58-3-17/20

TITLE: Protection of the Inside Walls of Buildings of the
Departments for Nitric and Sulphuric Acid Production
(Zashchita vnutrennikh sten zdaniya tsekhov azotnoy i
sernoy kislota)

PERIODICAL: Khimicheskaya Promyshlennost', 1958, Nr 3, pp 60-60
(USSR)

ABSTRACT: In order to protect the walls and ceilings of the nitric
and sulphuric acid departments in the Kemerovo ATZ
against destruction a double coat of chemically resistant
enamels of the type KhSE and PKhV was applied on to an
acid-resistant coating. To the carefully cleaned and per-
haps by soda neutralized brickwalls a liquid diabase so-
lution is applied and then plastered with acid-resistant
or andezite solution on the basis of water glass. For the
andezite or "Beshtaunit" powder 40% (from the powder weight)
of a water glass with a specific weight of 1.38-1.4 is
used whereas for a diabase powder the specific weight
should be 1.4-1.42, whereby according to the modulus the

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Protection of the Inside Walls of Buildings of the
Departments for Nitric and Sulphuric Acid Production

64-58-3-17/20

concentration of the water glass can be changed. In case the rock powder is moist it is dried at 50-60°C. Sodium fluo-silikate is used to accelerate the hardening, whereby the foundation should be entirely dried up before the first and second enamel application.

1. Acids--Production
2. Acids--Corrosive effects
3. Structures--Corrosion prevention
4. Anticorrosive coatings
- Preparation
5. Anticorrosive coatings--Materials

Card 2/2

GOL'DOV, N.G.; CHERNENKO, S.Ye.

Protecting the interior walls of the building housing nitric and
sulfuric acid sections. Khim. prom. no.3:188 Ap-May '58.
(Protective coatings) (MIRA 11:6)

CHERNENKO, S.Ye., PROKHOROV, P.I.

Protecting the exhaust pipes of electrostatic precipitators against
corrosion. Khim.prom. no.8:709 D '59. (MIRA 13:6)
(Pipe corrosion)

MARKMAN, A.L., doktor khim.nauk; CHERNENKO, T.V., inzh.

New method for determining the iodine number. Masl.-zhir.
prom. 27 no.6:8-9 Je '61. (MIRA 14:6)

1. Institut khimii rastitel'nykh veshchestv AN Uzbekskoy SSR.
(Iodine number)

AKRAMOVA, A.S.; GLUSHENKOVA, A.I.; MARKMAN, A.L.; STEPANENKO, G.A.; UMAROV, A.U.;
CHERNENKO, T.V.

Oilseeds of some species of leguminous plants. Uzb. khim. zhur. 8 no.6:
31-36 '64. (MIRA 18:4)

1. Institut khimii rastitel'nykh veshchestv AN UzSSR.

KARTASHOV, A.K.; SKRIPLEV, V.A.; CHERNENKO, V.A.

Manufacture of filtering powder from Tripoli. Sakh.prom. 37
no.6:20-23 Je '63. (MIRA 16:5)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sakharney
promyshlennosti.
(Tripoli (Mineral)) (Filters and filtration)

MARTINKEVICH, F.S., kand.geograf.nauk; SOBOLEV, Ye.Ya., kand.geograf.nauk;
 BOL'SHAKOVA, V.P., kand.ekonom.nauk; LAPETA, D.D., kand.ekonom.
 nauk; GLADKIY, V.I., kand.geograf.nauk, starshiy prepodavatel';
 ANICHENKO, G.V., kand.geograf.nauk; KOTT, G.Z.; TRUBILKO, N.P.,
 kand.ekonom.nauk; KOROLENKO, I.K., kand.ekonom.nauk; GUTSEV, Ye.G.,
 kand.geograf.nauk; ~~CHERNENKO, H.A.~~; CHERNYSH, L.P.. Prinimeli
 uchastiye: KOZLOVA, A.I.; KOVALEVSKIY, P.V.; MAZURENKO, R.V.;
 KUVSYSHA, Ye.I.; KRYLOVA, V.S.; SERZHINSKIY, I.I.; KURKINA, Z.A.;
 KALECHITS, T.A.. ROMANOVSKIY, N.T., red.; KOSTEVICH, K.R., red.;
 TURTSEVICH, L., red.izd-va; SIDERKO, N., tekhn.red.

[Distribution of the industry of White Russia for the processing
 of agricultural raw materials] Razmeshchenie promyshlennosti BSSR
 po pererabotke sel'skokhoziaistvennogo syr'ia. Minsk, 1959. 193 p.
 (MIRA 13:6)

1. Akademiya nauk BSSR, Minsk. Institut ekonomiki. 2. Zaveduyu-
 shchiy sektorom razmeshcheniya proizvodstva Instituta ekonomiki
 Akademii nauk BSSR (for Martinkevich). 3. Institut narodnogo
 khozyaystva im. V.V.Knybysheva (for Gladkiy).

(White Russia--Industries, Location of)

CHERNENKO, V. D. Cand Med Sci -- (diss) "Study of antitoxic immunity in children ~~who have been~~ immunized against diphtheria, ^{who suffered} and have ~~witnessed~~ dysentery after ~~the~~ immunization." Khar'kov, 1956. 13 pp (Khar'kov Med Inst), 210 copies (KL, 11-58, 122)

-13*-

CHEPNIENKO, V.D.

Effect of influenzal infection on artificial diphtherial immunity
in vaccinated children. Zhur. mikrobiol. epid. i immun. 31 no. 5:25-
27 My '60. (MIRA 13:10)

1. Iz kafedry epidemiologii Khar'kovskogo meditsinskogo instituta.
(INFLUENZA) (DIPHTHERIA)

CHERNENKO, V.D., kand.med.nauk

Schick reaction and the intensity of the antitoxin in children
with a history of measles, vaccinated against diphtheria.
Pediatriia no.6:60-61 '61. (MIRA 14:9)

1. Iz kafedry epidemiologii (zav. - deystvitel'nyy chlen AMN
SSSR prof. M.N. Colov'yev) Khar'kovskogo meditsinskogo instituta
(dir. - dotsent B.A. Zadorozhnyy).
(DIPHTHERIA) (MEASLES) (TOXINS AND ANTITOXINS)

CHERNENKO, V.D.

Supplementary revaccination of children with a positive Schick
test. Zhur. mikrobiol., epid. i immun. 41 no.4:55-59 Ap '64.
(MIRA 18:4)

1. Khar'kovskiy meditsinskiy institut.

V.G. Chernenko

3(5) PHASE I BOOK INFORMATION 307/1910
 : Akademiyu nauk SSSR, Dal'n vostok. Institut
 geografii.
 Materialy po fizicheskoy geografii yuga Dal'nego Vostoka; Priblankay-
 skaya ravnina i prilozheniya k nay rayony Primorskogo kraya
 (Physical Geography of the Southern [Soviet] Far East; Khanka
 Plain and Adjacent Areas, 308 the Primorsky Krai) Moscow, Izd-vo
 M 333, 1958, 289 p. 1,308 copies printed.
 Resp. Eds.: B.P. Kolesnikov, Doctor of Biological Sciences, G.D.
 Nikhter, Doctor of Geographical Sciences, Professor, and V.V.
 Nikol'skaya, Candidate of Geographical Sciences; Ed. of Pub-
 lishing House: P.K. Karvun' Tech. Ed.: Ye. V. Makuni.
 PURPOSE: This book is intended for geographers interested in the
 physical geography of the Primorsky Krai (Maritime Province).
 COVERAGE: These articles deal with various aspects of the physical
 geography of the Primorsky Krai, particularly the Suifun-Khan-
 kaykaya plain. A paleogeographic study of the Ussuri valley
 is given, as is a general treatment of the hydrography, infor-
 mation is provided on the non-metallic minerals of the plain
 and the rocks available for construction purposes. References
 accompany each article.
 Kedrovaya River Basins. 101
 Stotsenko, A.V. A Climatic Outline of the Priblankayskaya
 Plain and Adjacent Territories 131
 Sokolov, I.P. Dry Winds Sweeps as a Climatic Feature of the
 Forest-steppe Landscape of the Priblankayskaya Plain 162
 Stotsenko, A.V., V.G. Chernenko. A Hydrogeographic Descrip-
 tion of the Rivers of the Priblankayskaya Plain and
 Those of Contiguous Regions 179
 Stotsenko, A.V. Floods in the Primorsky Krai 254
 Eurentsov, A.I. Animal Life in the Priblankayskaya Plains 273
 AVAILABLE: Library of Congress (GE325.A45)
 MW/lab
 6-19-59

Card 3/3

5

STOTSENKO, A.V., prof., doktor geograficheskikh nauk; CHERNENKO, V.G.,
kand.tekhn.nauk

Brief survey of research on the development of water resources in
the basin of the Ussuri River. Amur sbor. no.2:20-32 '60.

(MIRA 15:3)

(Ussuri River--Water resources development)

CHERNENKO, V.G.

Agricultural characteristics of irregular runoff of Far
Eastern rivers. Sbor. nauch. rab. DVNIIS no.1:105-143 '61.
(MIRA 16:11)

STOTSENKO, A.V.; CHERNENKO, V.G.

Natural conditions determining the irregularity of the
discharge of rivers in the Ussuri Basin and floods caused
by them. Sbor. nauch. rab. DVNIIS no.3:99-109 '62.
(MIRA 17:5)

CHERNENKO, V.G.; KLIMENKOV, A.F.

Prospects for water resources development in the basin of
the Amur. Sbor. nauch. rab. DVNIIS no.3:110-122 '62.
(MIRA 17:5)

CHERNENKO, V.G.; MAVRINA, L.M.

Problems in calculating evaporation cooling of water in
reservoirs in the Far East. Sbor. nauch. rab. DVNIIS
no.3:151-181 '62. (MIRA 17:5)

LOSHKAREV, M.A.; LEVITIN, Zh.N.; CHERNENKO, V.I.

Experimental check of the graphic method for calculating polarization when superimposing the direct and alternating currents.
Trudy DKHTI no.16:87-98 '62 (MIRA 17:8)

CHERNENKO, V.I., Cand Chem Sci—(diss) "Certain problems of ^{the} ~~lead~~ re-
fining ^{of lead} from sulfamine electrolyte." Dnepropetrovsk, 1958. 16 pp
(Min of Higher Education UkrSSR. Dnepropetrovsk Chem-Tech~~ical~~ Inst im
F.E. Dzerzhinskiy), 200 copies (KL,30-58,123)

- 31 -

CHERNENKO, V.I.

LOSHKAREV, M.A.; CHERNENKO, V.I.; GAMALI, I.V.

Some features of refining lead from sulfamic acid electrolyte. Zhur.
prikl. khim. 31 no.2:248-255 F '58. (MIRA 11:5)
(Lead) (Sulfamic acid)

5 (4), 18 (5)

AUTHORS:

Chernenko, V. I., Loshkarev, M. A.
(Dnepropetrovsk)

SOV/76-33-8-12/39

TITLE:

Concurrent Discharge of Lead and Tin During Electrolytic Refining of Lead

PERIODICAL:

Zhurnal fizicheskoy Khimii, 1959, Vol 33, Nr 8, pp 1750 - 1757 (USSR)

ABSTRACT:

The concurrent discharge of lead and tin ions at low Sn^{2+} concentrations from a sulphamine electrolyte in the presence of surface-active substances (SAS) was investigated. In particular the laws which show a connection between the tin content in cathode lead on the one hand, and the concentration of $\text{Sn}(\text{SO}_3\text{NH}_2)_2$, current density, and concentration of Pb^{2+} ions on the other hand, were studied. Electrolysis was carried out without thorough mixing at 25°C . Polarization measurements were carried out by the compensation method. The measurement results obtained show that the dependence of the tin content in cathode lead on the Sn^{2+} concentration in the electrolyte is greatly influenced by the (SAS) (resorcin, β -naphthol, waste sulphite liquor). In the range of current density investigated the lead discharge may be

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Concurrent Discharge of Lead and Tin During
Electrolytic Refining of Lead

SOV/76-33-8-12/39

expressed by the equation $D = a \cdot e^{-b/\eta}$ (D = density of the cathode current, η = voltage), which is in agreement with other publications. It is assumed that in the presence of (SAS) the tin-discharge on lead at low Sn^{2+} concentrations in the electrolyte follows an equation of retarded discharge, which is confirmed by equations expressing a relation between the tin content of the cathode lead and the current density, the Pb^{2+} concentration and the (SAS) concentration. It is shown that additions of (SAS), by means of a change in the ratio of deposition rates of Pb and Sn, change the character of the function $A_i = f(c_i; D_M; c_M)$ (c_i = concentration of the additions of (SAS)) (Refs 7-10), in that the (SAS) content of the cathode deposit decreases owing to the increase in the effect of these additions. There are 6 figures and 13 Soviet references.

SUBMITTED: January 16, 1958

Card 2/2

LOSHKAREV, M.A.; ~~CHERNENKO~~, V.I. (Dnepropetrovsk)

Inhibiting action of naphthols on the process of discharge of lead
ions and the magnitude of the activation barrier. Zhur.fizh.khim.
34 no.5:1060-1068 My '60. (MIRA 13:7)
(Naphthols) (Lead plating)

CHERNENKO, V.I.; LOSHKAREV, M.A.

Some characteristics of the refining of lead from a sulfamine electrolyte. Report no.2: Preventing a decrease in the lead content of the electrolyte. Trudy IKHTI no.6:202-207 '58.
(MIRA 13:11)

(Lead) (Electrolysis)

LOSHKAREV, M.A.; CHERNENKO, V.I.; GAMALI, I.V.

Some characteristics of the refining of lead from a sulfamine electrolyte. Report No.1: Potential balance of the electrolytic bath. Trudy IKHTI no.6:193-201 '58. (MIRA 13:11)
(Lead) (Electrolysis)

CHERNENKO, V. I. (Dniepropetrovsk chemical technological institute F. E. Dzerzhinskiy)

"Results of laboratory and industrial tests of a new superficially active addition of polyacrylamide under the conditions of BGMK."

Introduction of it will allow an increase in current density to 300 a/m² without impairment of quality of deposit nor increase of specific power consumption.

Report presented at the Intervuz Conference on Electrodeposition of Nonferrous Metals, Ural Polytechnical Institute in S. M. Kirov, Sverdlovsk, held from 27-30 May 1963.

(Reported in Tsvetnyye Metally, No. 10, 1963, pp. 82-84)
JPRS 24,651 19 May 64

LOSHKAREV, M.A.; KOSTENKO, B.N.; CHERNENKO, V.I.; SEVRYUGINA, M.P.

Selecting optimal conditions for copper electrocrystallization.

Trudy DKHTI no.16:43-54 '63.

(MIRA 17:2)

LEVITIN, Zh.N.; CHERNENKO, V.I.; LOSHKAREV, M.A.

Calculation of polarization when superposing direct and alternating
currents. Trudy DKHTI no.16:115-120 '63. (MIRA 17:2)

CHERNENKO, V.I.; LOSHKAREV, M.A.; LEVITIN, Zh.N.

Electrode polarization by superimposed a.c. current. Zhur.
fiz. khim. 37 no.5:1015-1022 My '63. (MIRA 17:1)

1. Dnepropetrovskiy khimiko-tekhnologicheskoy institut imeni
Dzerzhinskogo.

CHERNENKO, V.I.; KOSTENKO, B.N.; LEVITIN, Zh.N.; PETRENKO, A.I.

Study of the process of copper refining. Zhur. prikl. khim.
36 no.11:2491-2498 N '63. (MIRA 17:1)

ACQUISITION NO. 1000000000

AUTHOR: [illegible]

TITLE: structural strength of titanium

SOURCE: Technology Abstracts, no. 4

TOPIC: titanium, titanium alloy
strength, stressed state, cleavage fracture

ABSTRACT: The study was devoted to
α-alloys and their behavior during
tensile test in the presence of
ing rate, change in stressed state
as the result of effect of impurities.
Commercially unalloyed titanium was used.
vacuum arc furnaces and cast into bars
up to 50% and 10-20% to 50% and
the stabilizing elements (V, Mo, ...)
the alpha structure of the alloy at

Core 1/2

ACCESSION NO. 00000000

tatic and dynamic tensile tests show titanium alloys can conduct itself as and impart strength are sharply low reduction of test temperature. However much above the test temperature with. A change in the notch sensitivity of formative characteristics, and notch to titanium strength shows that, the notch sensitivity. These relations Orig. art. has: Figures and 1 to.

ASSOCIATION: 11-10-68

SUBJECT: A. H.

NO REF ID: A6

Case 2/3

ACCESSION NO. AP-1-7-1



REMARKS: The sketch is a rough drawing of a structure, possibly a building or a piece of equipment, with some lines and markings that are difficult to discern due to the low quality of the scan.

Page 1

I. 1587-66 EPA(s)-2/ENT(m)/EPF(t)/EWP(1)/EPF(n)-2/EWP(t)/EWP(z)/EWP(b) IJP(c)
 JD/WH/JW/HW/JG/WB/MJW(CL)

ACCESSION NR: AP5020952

UR/0073/65/031/008/0793/0798

AUTHOR: Bogoyavlenskaya, N. V.; Chernenko, V. I.; Babchenko, V. A.; Vydra, E. I.

TITLE: Thermodynamics of oxide reduction by sodium hydride in an alkaline melt

SOURCE: Ukrainskiy khimicheskii zhurnal, v. 31, no. 8, 1965, 793-798

TOPIC TAGS: metal oxidation, degassing, deoxidation, sodium compound, chemical reduction, alkali, steel, iron base alloy, nickel base alloy, titanium base alloy, chromium base alloy

ABSTRACT: Alkali acid treatment of special steels and alloys is frequently ineffective because oxidation products are incompletely removed, the process is lengthy, and defects may form on the treated surface. Treatment of metallic bodies in an alkaline melt containing sodium hydride seems promising. This was investigated under laboratory conditions for steel, technically pure metals, and alloys based on iron, nickel, titanium, and chromium. Probability estimation of the cleaning effect was attempted by calculating the standard changes of the isobaric-isothermic potentials for such reactions (ΔZ°_T). Results of such calculations are

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ACCESSION NR: AP5020952

shown for various metals at 648 K, the temperature which was found optimal for this reduction process. The formula was

$$\Delta Z_T^0 = \Delta H_{298}^0 - T \Delta S_{298}^0 + C_{p,298} T \left(1 - \frac{298}{T} + 2.3 \lg \frac{298}{T} \right),$$

where ΔH_{298}^0 is enthalpy change, ΔS_{298}^0 the entropy change, $\Delta C_{p,298}$ change in molecular heat capacity, and T the absolute temperature. Ways for finding these values are shown, laboratory results are reported, and experimental conditions are described. The high negative value of Z_{648} pointed towards spontaneous reduction of 3 layers of iron oxides. The positive Z value obtained for TiO_2 points towards the impossibility of reducing titanium oxides to the pure metal with this cleaner, but they can be reduced to TiO . The same applies to chromium. Optimal values for temperatures (320-400 C), length of processing (5-25 min) and concentrations in NaH are tabulated. Increasing temperature above 340C and decreasing hydride concentrations to below 1.8% slowed down the process. Further reports are given for steels and alloys which had to undergo

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ACCESSION NR: AP5020952

subsequent and short acid treatment. Chromium had to be further cleaned with a saturated potassium bichromate solution in nitric acid and then with 10% hydrochloric acid. Theoretical results agreed satisfactorily with laboratory and pilot plant tests. Orig. art. has: 4 formulas, 3 figures and 1 table

ASSOCIATION: Ukrainskiy nauchno-isslevoatel'skiy trubnyy institut
(Ukrainian Scientific Research Institute for Tubes)

SUBMITTED: 09Mar64

ENCL: 00

SUB CODE: MM, IC

NR REF SOV: 006

OTHER: 000

Card 3/3

AP

BOGOYAVLENSKAYA, N.V.; CHERNENKO, V.I.; BABCHENKO, V.A.; VYDRA, E.I.

Thermodynamics of the reduction of oxides by sodium hydride in
an alkaline melt. Ukr. khim. zhur. 31 no.8:793-798 '65.

(MIRA 18:9)

1. Ukrainskiy nauchno-issledovatel'skiy trubnyy institut.

L 13100-63

EWI(1)/BDS AFFTC/ASD/SSD

ACCESSION NR: AP3003414

S/0051/63/015/001/0083/0088

AUTHOR: Chernenko, V.P.; Zaitov, F.N.; Lukantseva, Yu.L.

TITLE: Investigation of the mechanism of recombination luminescence of NaCl:Ag crystal phosphor

SOURCE: Optika i spektroskopiya, v.15, no.1, 1963, 83-88

TOPIC TAGS: luminescence, glow curve, color center, luminescence center, NaCl(Ag)

ABSTRACT: The authors carried out a comprehensive investigation of the recombination luminescence of NaCl:Ag (0.1 mole percent Ag); the studies included recording integral glow curves, investigating the spectral composition of the thermostimulated emission, investigation of thermal bleaching, recording the intensity and spectra of photostimulated luminescence. The spectra were recorded by means of an SF-4 spectrophotometer coupled to an FEU-29 photomultiplier connected via a dc amplifier to a loop oscillograph; the scanning rate from 2 to 6 eV was usually 20 sec. The spectra were corrected for the spectral sensitivity of the photomultiplier and the dispersion of the monochromator. In addition, the excitation and emission spectra were corrected for nonlinearity of the scan as regards frequency. The crystals were grown from a melt; some crystals were x-irradiated. Glow curves

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ACCESSION NR: AP3003414

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and spectra at different stages of thermostimulation and bleaching are reproduced. The experimental data are analyzed and discussed. The data allow of determining the dissociation of what color centers precedes the appearance of the electrons responsible for the different glow peaks; it would appear that electrons released incident to the destruction of different centers participate in each of the observed glow peaks. The thermoluminescence spectra of NaCl:Ag change in the process of relaxation. At different stages of the relaxation process different centers may play the role of traps and/or luminescence centers. "In conclusion, the authors express their deep gratitude to Yu.N.Yevstifeyev and V.Ye.Chudenko for assistance in performing the experiments." Orig.art.has: 2 formulas and 5 figures.

ASSOCIATION: none

SUBMITTED: 12Sept62

DATE ACQ: 30Jul63

ENCL: 00

SUB CODE: PH

NO REF SOV: 010

OTHER: 004

Card 2/2

CHERNENKO, V.P.; ZAITOV, F.N.; LUKANTSEVER, Yu.L.

Characteristics of the light sum storage in KCL - Tl,Ca crystal phosphor.
Izv. vys. ucheb. zav.; fiz. no.6:34-36 '63. (MIRA 17:2)

1. Oshskiy gosudarstvennyy pedagogicheskiy institut Kirgizskoy SSR.

ACCESSION NR: AP4025084

S/0139/63/000/006/0034/0036

AUTHORS: Chernenko, V. P.; Zaitov, F. N.; Lukantsever, Yu. L.

TITLE: On the characteristic of light-sum storage in KCl-Tl, Ca-crystal phosphors

SOURCE: IVUZ. Fizika, No. 6, 1963, 34-36, and insert facing page 36

TOPIC TAGS: light-sum storage, phosphor, x-irradiation, thermoluminescence, luminescence intensity

ABSTRACT: The light-sum storage characteristic of single crystal KCl-Tl (0.1 mol%) Ca (0.5 mol%) phosphors has been investigated after x-irradiation in the x-ray instrument URS-55a (tube BSV-2, Cu; V- 45 kv, I - 15 ma) for a 30- to 90-min duration. The thermoluminescence curves were recorded by means of EPP-09 potentiometer with an FE0-20 amplifier for 30-, 45-, 60-min irradiation duration and one curve after a 17-hour pause. After each excitation-measurement cycle the thermoluminescence curves show a new change in the light-sum magnitude. It is believed that this effect follows from a process leading to actual lowering of luminescence intensity after repeated irradiation followed by an actual increase in luminescence intensity when the crystal undergoes a relaxation. "The authors wish to thank Yu. N. Yevstifeyev and V. Ye. Chudenzkov for their help." Orig. art. has: 1 figure.

Card 1/2 ASSOCIATION: Oshskiy gospedinstitut, SSR (Osh State teachers Institute)

CHERNENKO, V.P.; ZAITOV, F.N.; LUKANTSEVER, Yu.L.

Mechanism underlying the breakdown of color centers and
recombination luminescence in the crystal phosphor
NaCl—Ag, Ca. Part 2. Izv. vys. ucheb. zav.; fiz. 8 no.6:
43-47 '65. (MIRA 19:1)

1. Oshskiy gosudarstvennyy pedagogicheskiy institut. Submitted
June 17, 1963.

ABSTRACT: The work was devoted to an investigation of the last three stages of phosphorescence of $\text{NaCl:0.2 mole \% Ag}$ (introduced into the melt in the form of AgNO_3) crystal phosphor, for the purpose of clarifying the details of the recombination luminescence mechanism. The said three stages are release of the stored excitation energy, transfer of the energy to luminescence centers, and emission from the centers. (The first three stages - absorption of radiative energy, excitation of the phosphor, and storage of the energy - were not specifically considered.) The phosphor was excited by x-rays from BSV-2 x-ray tube with a copper anode. The energy

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SOURCE CODE: UR/0139/65/000/006/0043/0047

AUTHORS: Chernenko, V. P.; Zaitov, F. N.; Lukantsever, Yu. L. 43

ORG: Osha State Pedagogical Institute (Oshskiy gospedinstitut) 21,44,55

TITLE: Investigation of the mechanism of destruction of color
centers and recombination luminescence of NaCl-Ag, Ca crystal
phosphor. II. 21,44,55

SOURCE: IVUZ. Fizika, no. 6, 1965, 43-47

TOPIC TAGS: luminescence spectrum, color center, recombination
luminescence, x ray irradiation, crystal phosphor, absorption
spectrum

ABSTRACT: The first part of the article was published in Izv. vuzov
SSSR, Fizika, no. 5, 97, 1965, and dealt with the integral thermal
deexcitation, thermal discoloring, and the luminescence spectra of
NaCl-Ag irradiated with x rays. The present investigation was made
on a more complicated single-crystal phosphor NaCl-Ag (0.1 mol.%)
Ca (0.3 mol.%), grown from the melt by the Kiropoulos method. The

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investigations were made at 290 -- 600K and the excitation was by means of copper radiation (15 ma, 45 kv, 30 minute exposure). The absorption spectra, the deexcitation and the discoloration curves, and the photostimulated and thermostimulated luminescence spectra were measured with the same apparatus as before. The heating rate of the phosphor was constant in all cases at 0.3°/sec. The results confirm the earlier data concerning the two-stage mechanism of luminescence excitation, consisting of destruction of the color centers followed by recombination of the carriers. The addition of the calcium gives rise to the formulation of several luminescence centers, each characterized by a different number of emitted quanta and different radiation efficiency. This causes different degrees of intensification of the luminescence peaks and a complicated structure of the individual peaks. Orig. art. has: 4 figures and 3 tables.

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ACCESSION NR: A5906057

AUTHOR: Chernenk, V. F.; Lukantseva, N. I.

TITLE: Investigation of the mechanism of vibration luminescence in the crystal.

SOURCE: Zhurnal Fizika, no. 1, 1963.

TOPIC TAGS: crystal luminescence, recording, luminescence, emission spectrum, laser.

ABSTRACT: A comprehensive procedure of spektroskopiya v. 15, 97, 1963) was used to study the peaks of integral thermoluminescence spectra, and the luminescence spectra of single-crystal BaF₂ and luminescence properties of combined application of a number of methods together with methods of integral analysis, coloring, and study of photostimulation.

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